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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,266	12/16/2004	David Keith Roberts	NL 020546	3560

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EXAMINER

YOUSEFI, SHAHROUZ

ART UNIT

PAPER NUMBER

2132

MAIL DATE

DELIVERY MODE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/518,266

**Applicant(s)**

ROBERTS, DAVID KEITH

**Examiner**

SHAHROUZ YOUSEFI

**Art Unit**

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 May 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-13 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 16 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is responsive to communications: application, filed 12/16/2004; amendment filed 05/21/2008.
2. Claims 1-13 are pending in the case. Claims 1-13 were amended by applicant.
3. Objections to abstract and drawing are hereby withdrawn.

### ***Response to Arguments***

4. Applicant's arguments filed 05/21/2008 have been fully considered but they are moot in view of the new ground(s) of rejection.
5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1, 2, 6, 7, 10, 11 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Above mentioned claims recite "first **physical** region" or "**physical** portion", there is no cited portion of the

specification in support of the mentioned limitations. Also, Claims 1, 11 and 12 recite “**without subdividing the signature**”, there is no cited portion of the specification in support of the mentioned limitations.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipate by Cox et al. (*Secure Spread Spectrum Watermarking for Multimedia*) hereinafter Cox.

10. With respect to claim 1, Cox discloses the limitation of generating a signature from a first physical region of a plurality of physical regions of the audio-visual signal (*breaks up an image into 8 x 8 blocks, page 1675, line10*); embedding of said signature (*A digital watermark...that is permanently embedded in the data, page 1673*) by spreading bits of said signature across a physical portion of said audio-visual signal without subdividing the signature, said physical portion being larger then first physical region (*Spreading the watermark throughout the spectrum of an image ensures a large measure of security against unintentional or intentional attack, page 1677*).

11. With respect to claim 2, Cox discloses said physical portion is significantly larger than said first physical region (*Spreading the watermark throughout the spectrum of an image. Page 1677*).

12. With respect to claim 3, Cox teaches that said signature is embedded as a watermark (*A digital watermark...that is permanently embedded in the data, page 1673*).

13. With respect to claim 4, Cox discloses the limitation of spread spectrum watermarking for multimedia, (*Secure spread spectrum watermarking for multimedia, title*).

14. With respect to claim 5, Cox teaches that the watermark is embedded according to the best trade-off between payload size of said audio-visual signal, robustness of said watermark and visibility of said watermark (*as a result an attack creates visible (or audible) defects in the data. Similarly, unintentional signal distortions due to compression or image manipulation, must leave the perceptually significant spectral components intact, otherwise the resulting image will be severely degraded. This is why the watermark is robust, p.1677, col. 2, lines 20-24*).

15. With respect to claim 6, Cox teaches that each signature bit is embedded multiple times in different locations within said physical portion (*Spreading the watermark throughout the spectrum of an image ensures a large measure of security against unintentional or intentional attack, p. 1677, col. 1, lines 39-41*).

16. With respect to claim 7, Cox teaches that decomposing said signature bits to multiple areas or a single large area within said physical portion such that information needs to be extracted from said multiple areas or said single large area within said physical portion, in order to evaluate the original signature bits (*in contrast, the NTSC signal is decomposed into two subbands, L and M, The coefficients,  $M_k$ , within the M*

*band are quantized...the method relies on modifying least significant bits, p.1676, col. 1, lines 20-30).*

17. With respect to claim 8, Cox teaches that said embedding spreads each signature bit over the whole audio-visual signal (*Spreading the watermark throughout the spectrum of an image ensures a large measure of security against unintentional or intentional attack, p. 1677, col. 1, lines 39-41*).

18. With respect to claim 9, Cox teaches that said signature comprises combined signature bits for a plurality of regions of said audio-visual signal (*Spreading the watermark throughout the spectrum of an image ensures a large measure of security against unintentional or intentional attack, p. 1677, col. 1, lines 39-41*).

19. With respect to claim 10, Cox teaches that the location of said portion has no fixed relationship to said first physical region (*the exact location of the watermark in an image is unknown, p. 1673, lines 22-23*).

20. Claims 11 and 12 differ from claim 1 only in that claim 1 is a method claim whereas, claims 11 and 12 are an apparatus claim and a computer readable medium claim respectively. Thus, claims 11 and 12 are analyzed as previously discussed with respect to claim 1 above.

#### ***Claim Rejections - 35 USC § 103***

21. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al. (*Secure Spread Spectrum Watermarking for Multimedia*) in view of Steinberg et al. (US 6,628,325).

22. With respect to claim 13, Cox et al. doesn't teach said apparatus is one of a surveillance camera, a security camera, a digital image camera, a digital video camera, and a medical imaging system. However, Steinberg et al. teaches a video digital camera to send image data directly from the camera, col. 1, lines 45-46, and the communication device can also be programmed to mark, i.e. watermark or finger print, which are invisible marks, the images for the purpose of deterring unauthorized use, and/or it can be programmed to prepare image authentication data, or to encrypt the entire set of image data to prevent any unauthorized person from viewing the image, col. 8, lines 48-54. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify teachings of Cox with Steinberg et al. to use the method in the above mentioned devices so that a digital signature in the form of a watermark can be inserted in an image to enable authentication of the image.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHAHROUZ YOUSEFI whose telephone number is (571) 270-3558. The examiner can normally be reached on Monday-Thursday 9:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. Y./  
Examiner, Art Unit 2132